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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Hideo WADA, et al.

Docket No: Q78279

Appln. No.: 10/697,155

Group Art Unit: 2878

Confirmation No.: 1659

Examiner: Unknown

Filed: October 31, 2003

For: THERMAL INFRARED DETECTOR HAVING A SMALL THERMAL TIME CONSTANT AND METHOD OF PRODUCING THE SAME

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §§ 1.97 and 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. Japanese Unexamined Patent Application Publication JP2001-041818, published February 16, 2001.

2. Japanese Unexamined Patent Application Publication JP2001-156277, published June 8, 2001.

3. Japanese Unexamined Patent Application Publication H10-122950, published May 15, 1998.

4. Japanese Unexamined Patent Application Publication H08-285680, published November 1, 1996.

5. Japanese Unexamined Patent Application Publication 2001-215151, published August 10, 2001 (previously submitted with IDS filed October 31, 2003).

6. United States Patent No. 6,046,485 issued April 4, 2000 (previously submitted with IDS filed October 31, 2003).

7. Japanese Unexamined Patent Application Publication 2001-153720, published June 8, 2001 (previously submitted with IDS filed October 31, 2003).

One copy of each of the listed documents is submitted herewith, except for references previously submitted with IDS filed on October 31, 2003.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

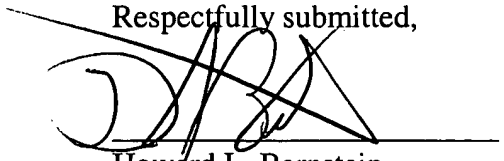
In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of a corresponding Japanese Office Action dated April 6, 2005 and an English translation of the pertinent portions thereof which cites such documents and indicates the degree of relevance found by the foreign office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not

waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,



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Substitute for Form 1449 A & B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/697,155
Confirmation Number	1659
Filing Date	October 31, 2003
First Named Inventor	Hideo WADA
Art Unit	2878
Examiner Name	Unknown
Attorney Docket Number	Q78279

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number: Number	Document Number: Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		US			
		US			
		US			
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		US			
		US			
		US			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document: Country Code[3]	Foreign Patent Document: Number[4]	Foreign Patent Document: Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation[6]
		JP	2001-041818	A	02-16-2001		
		JP	2001-156277	A	06-08-2001		
		JP	H10-122950	A	05-15-1998		
		JP	H08-285680	A	11-01-1996		

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or in the comment box of this document. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). [4]For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to indicate here if English language Translation is attached.

• Regarding the inventions according to Claims 1 through 5
(see Cited Literature: 1 through 3)
• Remarks:

Cited Literature 1 is an invention relating to a "thermal infrared detector" and describes "A thermal infrared detector comprising a board equipped with a contact pad; an infrared detection unit arranged at gap from and above a surface of said board, comprising a thermistor bolometer thin film, an electrode block electrically connected to said thermistor bolometer thin film, and an insulating protective film and infrared absorption film which surround said electrode block and said thermistor bolometer thin film; a beam part which supports said infrared detection unit on said board by suspending it above one surface of said board, comprising wiring formed from an electrically conductive material that electrically connects said electrode block of said infrared detection unit to said contact pad of said board, said electrically conductive material being surrounded by an insulating protective film; and an eave part which protrudes outward from the outer circumference of said infrared detection unit and covers the top surface of said contact pad and said beam part, leaving a space between it and the surface opposite the board side surface of said contact pad and said beam, and having an infrared absorption film on either the surface of incidence of infrared light or the surface opposite thereto" (see especially paragraphs (0050) through (0070), paragraphs (0091) through (0102), paragraphs (0107) through (0111), (FIGURE 1) through (FIGURE 5), (FIGURE 14), (FIGURE 15), (FIGURE 19), and (FIGURE 20)). Cited Literature 1 furthermore describes using a "thermal infrared detector" as a picture element of a "two-dimensional infrared solid state image pickup element" (see especially paragraph (0002)).

Although the thickness of the "insulating protective film" contained in the "beam part" in Cited Literature 1 is found to be identical to the thickness of the "insulating protective film" contained in the infrared detection unit, in the technical field of "thermal infrared detection elements," making the thickness in the direction perpendicular to the surface of the board greater in the "beam part" than in the "infrared detection unit" from the standpoint of increasing response speed, reducing thermal conductance, and increasing rigidity of the beam part, etc., is well-known art for configuring elements, as described for instance in Cited Literature 2 and Cited Literature 3.

Thus, adapting the well-known art of configuring thermal infrared detectors disclosed in Cited Literature 2 and Cited Literature 3 to the "thermal infrared detector" described in Cited Literature 1, thereby arriving at the inventions according to Claims 1 through 5 of the present application, is something which could be easily conceived of by a person skilled in the art.

List of cited literature

1. Japanese Unexamined Patent Application Publication 2001-215151
2. US Patent No. 6,046,485 Specification (Class 257/428)
3. Japanese Unexamined Patent Application Publication 2001-041818

Record of Prior Art Literature Search Results

• Fields searched

IPC 7th Edition

G01J	1/02
G01J	1/42–1/44
G01J	5/02
G01J	5/12
G01J	5/20–5/24
G01J	5/34

G01J 5/48
G01K 7/00–7/02
G01K 7/20–7/24
H01C 7/02–7/22
H01L 27/14
H01L 31/00–31/02
H01L 31/08
H01L 35/32
H01L 37/00–37/02
H04N 5/30–5/335

DB name

None in particular.

• Prior art literature

Japanese Unexamined Patent Application Publication 2001-156277
Japanese Unexamined Patent Application Publication 2001-153720
Japanese Unexamined Patent Application Publication H10-122950
Japanese Unexamined Patent Application Publication H08-285680

This Record of Prior Art Literature Search Results does not constitute a reason for rejection.